## Space Weather Forecast

Issued on Monday, 08 April 2024 at 01:13 Local

**This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales**

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**Space Weather Forecast Headline: No significant activity expected.**

**Analysis of Space Weather Activity over past 24 hours.**

**Solar Activity:** Low with only two Common class flares observed, the strongest from a sunspot region in the northeast. There are seven sunspot regions on the visible disc, the largest being a stable region nearing the northeast centre disc. The other regions remain small and stable.

A couple of far-side or limb coronal mass ejections CMEs have been observed, however there were no Earth-directed CMEs. An eruption on the northeast disc at 07/2230 UTC may have produced a CME, however imagery is currently unavailable.

**Solar Wind / Geomagnetic Activity:** The solar wind continued to ease to background slow wind conditions. Observed speeds erratically declined from near 450km/s to just below 400km/s. Total Interplanetary Magnetic Field (IMF) strength was Weak. The north-south component was Weak and variable. Geomagnetic activity was Quiet (Kp 1-2).

**Energetic Particles / Solar Radiation:** The count rate of energetic particles (high energy protons) was at background levels with no solar radiation storms observed.

**Four-Day Space Weather Forecast Summary**

**Solar Activity:** Low activity is likely through the period, with a slight chance of rising to Moderate with isolated M-class flares. This risk likely increasing a little through the period.

**Solar Wind / Geomagnetic Activity:** There are no Earth-directed CMEs. Current background winds are likely to become enhanced later day 1 and into day 2 (08-09 Apr) due to the arrival of fast winds from a small coronal hole. Solar winds are then likely to ease back towards background days 3-4 (10-11 Apr). Geomagnetic activity is forecast to be mainly Quiet with Unsettled intervals, but increasing to Unsettled with Active intervals with any fast wind enhancement.

**Energetic Particles / Solar Radiation:** The count rate of energetic particles (high energy protons) is expected to remain at background levels.

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Met Office

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**Geomagnetic Storms:**

| Geo-Magnetic Storm Probability (Exceedance) | Level | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Minor or Moderate | G1 to G2 | No | 5 | 5 | 1 | 1 |
| Strong | G3 | No | 1 | 1 | 1 | 1 |
| Severe | G4 | No | 1 | 1 | 1 | 1 |
| Extreme | G5 | No | 1 | 1 | 1 | 1 |

**Radio Blackouts - X Ray Flares:**

| X Ray Flares Probability | Level | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Active | R1-R2 M Class | No | 15 | 20 | 30 | 30 |
| Very Active | R3 to R5 X | No | 1 | 1 | 1 | 1 |

**Solar Radiation Storms - (High Energy Protons):**

| Radiation Storms Probability (Exceedance) | Level ($cm^{-2}$ $sr^{-1}$ $s^{-1}$) | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Active | ≥ S1 | No | 1 | 1 | 1 | 1 |
| Very Active | ≥ S3 * | No | 1 | 1 | 1 | 1 |

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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